

I. Listing of the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A foamed isocyanate-based polymer derived from a reaction mixture comprising an isocyanate, an active hydrogen-containing compound, a phenolic resin and a blowing agent; wherein the phenolic resin is substantially completely free of ether moieties.

2. (Original) The foamed isocyanate-based polymer defined in claim 1, wherein the active hydrogen-containing compound is selected from the group comprising polyols, polyamines, polyamides, polyimines and polyolamines.

3. (Original) The foamed isocyanate-based polymer defined in claim 1, wherein the active hydrogen-containing compound comprises a polyol.

Claim 4 (Cancelled)

Claim 5 (Cancelled)

Claim 6 (Cancelled)

7. (Original) The foamed isocyanate-based polymer defined in claim 3, wherein the polyol is a polyether polyol.

8. (Original) The foamed isocyanate-based polymer defined in claim 7, wherein the polyether polyol has a molecular weight in the range of from about 200 to about 10,000.

9. (Original) The foamed isocyanate-based polymer defined in claim 7, wherein the polyether polyol has a molecular weight in the range of from about 2000 to about 7,000.

10. (Original) The foamed isocyanate-based polymer defined in claim 7, wherein the polyether polyol has a molecular weight in the range of from about 2,000 to about 6,000.

Claim 11 (Cancelled)

Claim 12 (Cancelled)

Claim 13 (Cancelled)

Claim 14 (Cancelled)

Claim 15 (Cancelled)

Claim 16 (Cancelled)

Claim 17 (Cancelled)

Claim 18 (Cancelled)

Claim 19 (Cancelled)

20. (Previously Presented) The foamed isocyanate-based polymer defined in claim 1, wherein the isocyanate is selected from the group comprising 2,4-toluene diisocyanate, 2,6-toluene diisocyanate and mixtures thereof.

21. (Previously Presented) The foamed isocyanate-based polymer defined in claim 1, wherein the isocyanate is selected from the group consisting essentially of (i) 2,4 - diphenylmethane diisocyanate, 4,4 -diphenylmethane diisocyanate and mixtures thereof; and (ii) mixtures of (i) with an isocyanate selected from the group comprising 2,4-toluene diisocyanate, 2,6-toluene diisocyanate and mixtures thereof.

22. (Previously Presented) The foamed isocyanate-based polymer defined in claim 1, wherein the blowing agent comprises water.

Claim 23 (Cancelled)

Claim 24 (Cancelled)

25. (Previously Presented) The foamed isocyanate-based polymer defined in claim 1, wherein the reaction mixture comprises phenolic resin in an amount of up to about 20 parts by weight per 100 parts by weight of active hydrogen-containing compound used in the reaction mixture.

26. (Previously Presented) The foamed isocyanate-based polymer defined in claim 1, wherein the reaction mixture comprises phenolic resin in an amount in the range of from about 1.0 to about 15 parts by weight per 100 parts by weight of active hydrogen-containing compound used in the reaction mixture.

27. (Previously Presented) The foamed isocyanate-based polymer defined in claim 1, wherein the reaction mixture comprises phenolic resin in an amount in the range of from about

1.0 to about 10 parts by weight per 100 parts by weight of active hydrogen-containing compound used in the reaction mixture.

28. (Previously Presented) The foamed isocyanate-based polymer defined in claim 1, wherein the reaction mixture comprises phenolic resin in an amount in the range of from about 2.0 to about 20 parts by weight per 100 parts by weight of active hydrogen-containing compound used in the reaction mixture.

29. (Previously Presented) The foamed isocyanate-based polymer defined in claim 1, wherein the phenolic resin comprises a molecular weight in the range of from about 200 to about 3000.

30. (Previously Presented) The foamed isocyanate-based polymer defined in claim 1, wherein the phenolic resin comprises a melting point in the range of from about 50°C to about 150°C.

31. (Previously Presented) The foamed isocyanate-based polymer defined in claim 1, wherein the phenolic resin comprises a melting point in the range of from about 75°C to about 100°C.

32. (Previously Presented) The foamed isocyanate-based polymer defined in claim 1, wherein the phenolic resin comprises a functionality in the range of from about 2 to about 8.

33. (Previously Presented) The foamed isocyanate-based polymer defined in claim 1, wherein the phenolic resin comprises less than about 0.05 % by weight phenol.

34. (Previously Presented) The foamed isocyanate-based polymer defined in claim 1, wherein the phenolic resin comprises less than about 0.05 % by weight formaldehyde.

35. (Previously Presented) The foamed isocyanate-based polymer defined in claim 1, wherein the phenolic resin comprises less than about 0.05 % by weight phenol and formaldehyde.

36. (Previously Presented) A molded foam comprising the foamed isocyanate-based polymer defined in claim 1.

37. (Previously Presented) A slab foam comprising the foamed isocyanate-based polymer defined in claim 1.

38. (Original) A process for producing a foamed isocyanate-based polymer comprising the steps of:

contacting an isocyanate, an active hydrogen-containing compound, a phenolic resin and a blowing agent to form a reaction mixture; and

expanding the reaction mixture to produce the foamed isocyanate-based polymer;

wherein the phenolic resin is substantially completely free of ether moieties.

39. (Original) The process defined in claim 38, wherein the active hydrogen-containing compound is selected from

the group comprising polyols, polyamines, polyamides, polyimines and polyolamines.

40. (Original) The process defined in claim 38, wherein the active hydrogen-containing compound comprises a polyol.

Claim 41 (Cancelled)

Claim 42 (Cancelled)

Claim 43 (Cancelled)

44. (Original) The process defined in claim 40, wherein the polyol is a polyether polyol.

45. (Original) The process defined in claim 44, wherein the polyether polyol has a molecular weight in the range of from about 200 to about 10,000.

46. (Original) The process defined in claim 44, wherein the polyether polyol has a molecular weight in the range of from about 2000 to about 7,000.

47. (Original) The process defined in claim 44, wherein the polyether polyol has a molecular weight in the range of from about 2,000 to about 6,000.

Claim 48 (Cancelled)

Claim 49 (Cancelled)

Claim 50 (Cancelled)

Claim 51 (Cancelled)

Claim 52 (Cancelled)

Claim 53 (Cancelled)

Claim 54 (Cancelled)

Claim 55 (Cancelled)

Claim 56 (Cancelled)

57. (Previously Presented) The process defined in claim 38, wherein the isocyanate is selected from the group comprising 2,4-toluene diisocyanate, 2,6-toluene diisocyanate and mixtures thereof.

58. (Previously Presented) The process defined in claim 38, wherein the isocyanate is selected from the group consisting essentially of (i) 2,4 -diphenylmethane diisocyanate, 4,4 -diphenylmethane diisocyanate and mixtures thereof; and (ii) mixtures of (i) with an isocyanate selected from the group comprising 2,4-toluene diisocyanate, 2,6-toluene diisocyanate and mixtures thereof.

59. (Previously Presented) The process defined in claim 38, wherein the blowing agent comprises water.

Claim 60 (Cancelled)

Claim 61 (Cancelled)

62. (Previously Presented) The process defined in claim 38, wherein the reaction mixture comprises phenolic resin in an amount of up to about 20 parts by weight per 100 parts by weight of active hydrogen-containing compound used in the reaction mixture.

63. (Previously Presented) The process defined in claim 38, wherein the reaction mixture comprises phenolic resin in an amount in the range of from about 1.0 to about 15 parts by weight per 100 parts by weight of active hydrogen-containing compound used in the reaction mixture.

64. (Previously Presented) The process defined in claim 38, wherein the reaction mixture comprises phenolic resin in an amount in the range of from about 1.0 to about 10 parts by weight per 100 parts by weight of active hydrogen-containing compound used in the reaction mixture.

65. (Previously Presented) The process defined in claim 38, wherein the reaction mixture comprises phenolic resin in an amount in the range of from about 2.0 to about 20 parts by weight per 100 parts by weight of active hydrogen-containing compound used in the reaction mixture.

66. (Previously Presented) The process defined in claim 38, wherein the phenolic resin comprises a molecular weight in the range of from about 200 to about 3000.

67. (Previously Presented) The process defined in claim 38, wherein the phenolic resin comprises a melting point in the range of from about 50°C to about 150°C.

68. (Previously Presented) The process defined in claim 38, wherein the phenolic resin comprises a melting point in the range of from about 75°C to about 100°C.

69. (Previously Presented) The process defined in claim 38, wherein the phenolic resin comprises a functionality in the range of from about 2 to about 8.

70. (Previously Presented) The process defined in claim 38, wherein the phenolic resin comprises less than about 0.05 % by weight phenol.

71. (Previously Presented) The process defined in claim 38, wherein the phenolic resin comprises less than about 0.05 % by weight formaldehyde.

72. (Previously Presented) The process defined in claim 38, wherein the phenolic resin comprises less than about 0.05 % by weight phenol and formaldehyde.

73. (Original) A foamed isocyanate-based polymer derived from a reaction mixture comprising an isocyanate, an active hydrogen-containing compound, a phenolic resin substantially completely free of ether moieties and a blowing agent; the foamed isocyanate-based polymer having an Indentation Force Deflection loss when measured pursuant to ASTM D3574 which

is less than that of a reference foam produced by substituting a copolymer polyol for the phenolic resin in the reaction mixture, the foamed isocyanate-based polymer and the reference foam having substantially the same density and Indentation Force Deflection when measured pursuant to ASTM D3574 (50 in² indenter; 15" x 15" x 4" sample size; 25°C, 50% relative humidity).

74. (Original) A foamed isocyanate-based polymer derived from a reaction mixture comprising an isocyanate, an active hydrogen-containing compound, a phenolic resin substantially completely free of ether moieties and a blowing agent; the foamed isocyanate-based polymer having thickness loss when measured pursuant to ASTM D3574 which is less than that of a reference foam produced by substituting a copolymer polyol for the phenolic resin in the reaction mixture, the foamed isocyanate-based polymer and the reference foam having substantially the same density and Indentation Force Deflection when measured pursuant to ASTM D3574.

75. (Original) A liquid mixture comprising an active hydrogen-containing compound and a phenolic resin substantially completely free of ether moieties.

76. (Original) A method of conferring a load bearing property to an isocyanate-based polymer foam comprising the step of incorporating a phenolic resin substantially completely free of ether moieties in a formulation used to produce the foam.

77. (Original) A method of conferring an energy absorbing property to an isocyanate-based polymer foam comprising the step of incorporating a phenolic resin substantially

completely free of ether moieties in a formulation used to produce the foam.